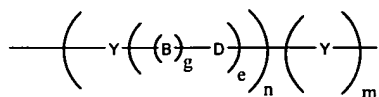


Appendix of Pending Claims

20. An apparatus for the detection of a non-nucleic acid target analyte in a test sample, comprising:
a) a test chamber comprising an array of first measuring electrodes each comprising:
i) a self-assembled monolayer; and
ii) a binding ligand covalently attached to said electrode via a spacer;
wherein said test chamber further comprises at least one second measuring electrode; and
b) a voltage source electrically connected to said test chamber.

22. An apparatus according to claim 21 wherein said conductive oligomer has the formula:



wherein

Y is an aromatic group;

n is an integer from 1 to 50;

g is either 1 or zero;

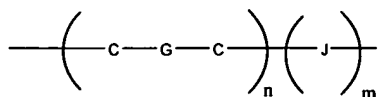
e is an integer from zero to 10; and

m is zero or 1;

wherein when g is 1, B-D is a conjugated bond; and

wherein when g is zero, e is 1 and D is preferably carbonyl, or a heteroatom moiety, wherein the heteroatom is selected from oxygen, sulfur, nitrogen, silicon or phosphorus.

23. An apparatus according to claim 21 wherein said conductive oligomer has the formula:



wherein

n is an integer from 1 to 50;

m is 0 or 1;

C is carbon;

J is carbonyl or a heteroatom moiety, wherein the heteroatom is selected from the group consisting of oxygen, nitrogen, silicon, phosphorus, sulfur; and

G is a bond selected from alkane, alkene or acetylene, wherein if m = 0, at least one G is not alkane.

25. An apparatus according to claim 20 or 30 wherein said self-assembled monolayer comprises insulators.

26. An apparatus according to claim 20 or 30 wherein said self-assembled monolayer comprises conductive oligomers.

27. An apparatus according to claim 20 or 30 wherein said self-assembled monolayer comprises insulators and conductive oligomers.

28. An apparatus according to claim 20 or 30 wherein said binding ligand is a protein.

29. An apparatus according to claim 20 or 30 further comprising a processor coupled to said electrodes and configured to receive an output signal.

30. An apparatus for the detection of a non-nucleic acid target analyte in a test sample comprising:

a) a test chamber comprising an array of electrodes each comprising:

i) a self-assembled monolayer; and

ii) a binding ligand covalently attached to said electrode via an insulator;

wherein said test chamber further comprises at least one second measuring electrode; and

b) a voltage source electrically connected to said test chamber; and

c) an electronic detector.